

CITY OF MIAMI BEACH

2002 WATER QUALITY REPORT



The City of Miami Beach and its partner Miami-Dade County Water and Sewer Department are dedicated to providing our customers with a safe and reliable supply of high quality drinking water. Our employees work hard to ensure that the water delivered by our system meets all standards for safety, reliability and quality. The City is pleased to report that in 2002 our water again met all Federal, State and Local standards.

Included in this report is information about your drinking water source and the regulations that protect the high quality of your drinking water. We are committed to providing you this information about your water supply because customers that are well informed are our best supporters in any improvements necessary to maintain the highest drinking water quality standards. If you have any questions or concerns about the information provided, please feel free to call any of the numbers listed below:

1. City of Miami Beach, Environmental Resources Management Division: (305) 673-7080
2. Miami-Dade Water and Sewer Department, Public Affairs: (305) 448-7283
3. Florida Department of Health, Miami-Dade County Environmental Health Office: (305) 623-3500

Si usted quiere recibir este folleto en espanol, por favor llame al telefono : (305) 448-7283

What You Should Know About Your Water Supply

The Biscayne Aquifer, an underground geologic formation, is the source of water for all of Miami-Dade County. In order to meet the needs of our community, approximately 330 million gallons are withdrawn from the aquifer each day. The water is pumped to the County's three treatment facilities: Hialeah, John E. Preston and Alexander Orr Water Treatment Plants. The plants supply treated water to a common distribution system. Highly trained microbiologists, chemists and water treatment specialists conduct or supervise the analysis of more than 100,000 water samples each year. Water quality samples are collected throughout the County and tested regularly. Samples include untreated and treated water taken at the treatment plants, sample sites throughout the service area and at customers' homes. These tests are overseen by various regulatory agencies at the Federal, State and Local level.

Customers judge the quality of their drinking water based on taste and appearance. The water delivered to residents in the northern part of the county originates from a region of the Biscayne Aquifer that contains natural organic material. These natural substances increase the color of the water. Although the water has a yellow tint, there is no harm associated with the color.

What You Should Know AboutCertain Contaminants

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking water Hotline at 1-800-426-4791 or visit their web site at SDWA@EPAMAIL.EPA.GOV.

Disinfection Byproducts

In May 1996, The Environmental Protection Agency (EPA) promulgated an Information Collection Rule (ICR) which required large water systems to test for disinfection byproducts (DBPs). DBPs are compounds that form when disinfectants used for microbial control react with natural organic compounds already present in the source water. The Disinfection Byproducts section of the attached "2002 Water Quality Data Summary Table" lists the DBPs detected in the drinking water produced by Miami-Dade County. It also lists the disinfectants used to control microbial contaminants in drinking water.

In December 1998, the EPA promulgated the Stage I, Disinfectants and Disinfection Byproducts Rule

(D/DBPR) which established an MCL of 60 parts per billion (ppb) for five Haloacetic Acids (HAA5) monitored under the ICR. The effective date for required compliance by groundwater systems such as ours is December 2003.

Because of the higher levels of natural organic compounds in the source water supplied to the Preston Plant, additional treatment processes will be implemented to reduce these levels and meet the new standard by the effective date. As an added benefit, the new treatment process will reduce the yellow tint of the water in northern Miami-Dade County.

Miami-Dade County Water and Sewer Department (WASD) began evaluating the best available technologies for control of HAAs four years ago. The most effective treatment process, enhanced softening followed by ozonation, underwent full-scale pilot testing. While this process is the most cost-effective alternative, it is estimated that the treatment modifications will cost the WASD and its customers \$90 million.

The D/DBPR also established a Maximum Disinfectant Residual Level (MDRL) of 4 parts per million (ppm) for the disinfectants chlorine and chloramines, currently used by the WASD. The use of these disinfectants are required to ensure the microbial protection of the drinking water in the distribution system.

Radon

Radon 222, or radon for short, is a colorless, odorless gas that naturally occurs in soil, air and water. Radon is formed from the radioactive decay products of natural uranium that is found in many soils. Most radon in indoor air comes from the soils below the foundation of the home and in some locations can accumulate to dangerous levels in the absence of proper ventilation. In most homes, the health risk from radon in drinking water is very small compared to the health risk from radon in indoor air.

In October 1999, the EPA proposed an MCL of 300 pCi/L or an alternative maximum contaminant level (AMCL) of 4000 pCi/L for radon. The AMCL requires the development of a multimedia mitigation (MMM) program which also addresses radon exposure from indoor air. It is expected that the final rule will be published the fall of 2000. Please refer to the Radon Data Summary section of the 2002 Water Quality Data Summary Table for levels of radon measured at WASD's water plants.

Nitrate

Although the level of nitrate detected in our water system is well below the health effect level, the EPA requires that we provide you with the following information: "Nitrate in drinking water at levels above 10 ppm is a health risk to infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rain-fall or agricultural activity. If you are caring for an infant, you should ask advice from your health care provider."

Cryptosporidium

In April of 1993 the cryptosporidiosis outbreak in Milwaukee, Wisconsin alerted water utilities to the potential threat that this protozoan organism presents to public water supplies. There were an estimated 400,000 cases of diarrhea and several deaths associated with the disease in severely immunocompromised persons. This organism is primarily associated with surface water sources. To date, Cryptosporidium has not been detected in the source water supplying WASD's water treatment plants. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are available from the Safe Drinking Water Hotline at 1-800-426-4791.

Lead

There is no lead in the drinking water supplied by the City to its customers. However infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that the lead levels in your home may be higher than at other homes because of your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may flush your tap for 30 seconds to two minutes before using the tap water.

**City of Miami Beach
2002 Water Quality Data**

Parameter	FEDERAL MCL	FEDERAL MCLG	STATE MCL	YEAR TESTED	Source Water Quality Data Miami Dade Water Treatment Plants			City of Miami Beach Water Quality Data	Major Sources
					ALEXANDER ORR, JR	HIALEAH	JOHN E. PRESTON		
Microbiological Contaminants									
Total Coliform Bacteria (a)	5%	0	5%	02	0.48%	0%	0%	0%	Naturally present in the environment
Volatile Organic Contaminants									
Total Trihalomethanes (ppb) (b)	100	N/A	100	02	25 (16-48)	21 (1-54)	55 (30-96)	N/A	Byproduct of drinking water chlorination
cis-1, 2-Dichloroethylene (ppb)	70	70	70	02	ND	ND	ND	N/A	Discharge from industrial chemical factories
Inorganic Contaminants									
Arsenic (ppb)	50	NE	50	02 (h)	0.6	1	1	N/A	Erosion of natural deposits
Barium (ppm)	2	2	2	02 (g)	0.008	0.007	0.008	N/A	Erosion of natural deposits
Chromium (ppb)	100	200	100	02 (g)	0.1	0.2	0.1	N/A	Erosion of natural deposits
Copper (ppm) (c)	AL=1.3	1.3	AL=1.3	02/00 (d)	0.08, 0 homes out of 111 (0%) exceeded AL			0.082, 0 homes out of 60 (0%) exceeded AL(e)	Corrosion of household plumbing systems
Flouoride (ppm)	4	4	4	02 (f)	0.7	0.9	0.7	N/A	Erosion of natural deposits, water additive which promotes strong teeth
Lead (ppb) (c)	AL=15	0	AL=15	02/00 (d)	4, 3 homes out of 111 (2.7%) exceeded AL			8, 4 homes out of 60 (6.6%) exceeded AL(e)	Corrosion of household plumbing systems
Nickel (ppb)	NE	NE	100	02 (g)	ND	ND	ND	N/A	Corrosion of bronze
Nitrate (as N) ppm	10	10	10	02	0.24	0.03	0.02	N/A	Erosion of natural deposits, fertilizer runoff
Nitrite (as N) ppm	1	1	1	02	0.007	0.005	0.002	N/A	Erosion of natural deposits, fertilizer runoff
Selium (ppb)	50	50	50	02 (g)	ND	ND	ND	N/A	Erosion of natural deposits
Sodium (ppm)	NE	NE	160	02 (g)	27	31	35	N/A	Erosion of natural deposits & sea water
Thallium (ppb)	2	0.5	2	02 (g)	ND	ND	ND	N/A	Discharge from electronics, glass, & drug factories
Radioactive Contaminants									
Alpha Emitters (pCi/L)	15	0	15	02 (g)	0.3	1.3	1.1	N/A	Erosion of natural deposits
Radon (pCi/L)	NE	NE	NE	02	171	3	7	N/A	Naturally occurring in soil and rock formations
Disinfection Byproducts (h)									
Haloacetic Acids: HAA5 (ppb) (J)	60	NE	NE	98	17 (15-22)	45 (33-57)	71 (41-93)	N/A	Byproduct of Drinking Water Chlorination
Haloacetonitriles (HANs) (ppb) (k)	NE	NE	NE	98	3.7 (2.5-4.5)	4.2 (2.9 - 6.2)	7.5 (4.2 - 10.1)	N/A	Byproduct of Drinking Water Chlorination
Haloketones (ppb) (l)	NE	NE	NE	98	0.2 (ND-0.3)	0.9 (0.6 - 1.6)	1.7 (1.2 - 2.4)	N/A	Byproduct of Drinking Water Chlorination
Chloral Hydrate (ppb)	NE	NE	NE	98	0.3 (ND-0.6)	1.8 (1.3 - 2.3)	4.4 (1.6 - 7.4)	N/A	Byproduct of Drinking Water Chlorination
Cyanogen Chloride (ppb)	NE	NE	NE	98	ND	1.4 (ND-2.6)	5.9 (4.2 - 7.8)	N/A	Byproduct of Drinking Water Chlorination
Total Organic Halides (TOX) (ppb) (m)	NE	NE	NE	98	105 (97-115)	238 (193-280)	334 (244-371)	N/A	Byproduct of Drinking Water Chlorination
Disinfectant Residuals (h)									
Chloramine (ppm)	4.0	4	NE	98	2.6 (2.2 -2.9)	2.6 (2.2 - 2.8)	3.1 (3.0 - 3.2)	N/A	Addition of Chlorine or Chloramine to
Chlorine (ppm)	4.0	4	NE	98	-	-	-	N/A	drinking water for disinfection

Abbreviations and Notes

AL = Action Level
 N/A = Not Applicable
 ND = Not Detected
 NE = None Established
 MCL = Maximum Contaminant Level
 MCLG = Federal Goal = Maximum Contaminant Level Goal
 MDRL = Maximum Disinfectant Residual Level
 MDRLG = Maximum Disinfectant Residual Level Goal
 pCi/L = picoCuries per Liter
 ppb = Parts per billion or micrograms per liter
 ppm = Parts per million or milligrams per liter
 () = Ranges (low - high) are given in parenthesis where applicable

For Customers with Special Health Concerns

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer, HIV/AIDS, and other immune system disorders, organ transplant patients, some elderly and infants, can be particularly at risk. These people should seek advice about drinking water from their health care providers.

Landlords and businesses are encouraged to share this report with non-billed water users. Additional copies of this report for posting in common areas are available by calling the City of Miami Beach Environmental Resources Management Division at (305) 673-7080.

(a) The MCL for total coliform bacteria states that drinking water must not show the presence of coliform bacteria in $\geq 5\%$ of monthly samples. A minimum of 390 samples (from the County's Main distribution system) and 160 samples (from Miami Beach's Main distribution system) are collected each month in order to demonstrate compliance with regulations.

(b) A total of 48 samples for Total Trihalomethane testing are collected per year from the County's Main distribution system in order to demonstrate compliance with State regulations. Compliance is based on a running average. This is the value which precedes the parentheses.

(c) 90th percentile value reported. If the 90th percentile does not exceed the AL (i.e., less than 10% of the homes have levels above the AL), the system is compliance and is utilizing the prescribed corrosion control measures.

(d) The 02/00 data presented for the County's Main System is from the most recent testing conducted in accordance with regulations. The system is under reduced monitoring which only requires testing every 3 years.

(e) The data presented from Miami Beach's Main System is from 2001 - the most recent testing conducted in accordance with regulations. The system is under reduced monitoring which only requires testing every 3 years.

(f) Fluoride testing to demonstrate compliance with State regulations is required every 3 years in accordance with the State's monitoring framework. However, fluoride levels are monitored daily for the Main System treatment plants where fluoride is added to promote strong teeth.

(g) Data presented is from the most recent testing conducted in accordance with regulations. Testing for this parameter is required every 3 years in accordance with the State's monitoring framework.

(h) Data presented as the average from all samples collected in 1998 with the range (low - high) in parentheses. Data gathering for the Information Collected Rule ended in 1998. This data will continue to be presented in accordance with consumer confidence report criteria.

(i) Effective date for compliance with MCL is January 2004.

(j) HAA5 = the sum of the following individual Haloacetic acids: Monochloroacetic acid, Dichloroacetic acid, Trichloroacetic acid, Monobromoacetic acid, and Dibromoacetic acid.

(k) HAN = the sum of the following Haloacetonitriles: Dichloroacetonitrile, Trichloroacetonitrile, bromochloroacetonitrile, and Dibromoacetonitrile. Trichloroacetonitrile was not detected in WASH's treated water.

(l) Haloketones = the sum of the following haloketones: 1,1-dichloropropane and 1,1,1-trichloropropanone.

(m) TOX is a surrogate parameter used to indicate the potential that water has for forming disinfection byproducts when a disinfectant is added to it.